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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/726,831	11/30/2000	Neal A. Osborn	035451-0198	1494
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EXAMINER				
NGUYEN, HAU H				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/726,831

Applicant(s)

OSBORN ET AL.

Examiner

HAU H. NGUYEN

Art Unit

2628

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-62 is/are pending in the application.
- 4a) Of the above claim(s) 45-47, 49-53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-44, 48 and 54-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Election/Restrictions

1. Applicant's reply to the Election/Restrictions requirements has been fully considered and persuasive, withdrawal of the requirement for restriction upon Applicant's request between Groups I, II and IV has been accepted. Examination of claims 31-44, 48, and 54-62 is shown as below.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 40-44, 54, and 57 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 40 recites the limitation "the controller is configured to display an image associated with an application in the second display mode *using a same size amount of a display as when displaying an image in the first display mode*" is not found in the Specification. Claim 54 recites the limitation "an image displayed *based on the second amount of information has a same resolution as an image displayed based on the first amount of information*" is also not found in the specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 31-37, 39, 48, 56, 58-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nookala et al. (U.S. Patent No. 5,860,016) in view of Phillipps (U.S. Patent No. 6,137,481).

As per claim 31, Nookala teaches a mobile computing device (200, Fig. 2), comprising:

a memory (202) ;

a display configured to display in more than one display mode;

a display controller (211) coupled to the display (203) and an internal display memory (on-chip memory 209);

a processor (206) coupled to the memory (202) and the display controller (211), wherein one of the processor and display controller is configured to operate display logic (state machine 207) configured to change the display mode (the CPU controls the state machine 207 to operate in either snooze operating mode or normal operating mode, see col. 3, lines 25-50),

wherein in a first display mode (normal operating mode) the display controller is configured to retrieve a first amount of information from the memory (from DRAM 202) to be displayed on the display, and

in a second display mode (snooze operating mode) the display controller is configured to retrieve a second amount of information smaller than the first amount of information from the

internal display memory to be displayed on the display (only 1 bit per pixel resolution is displayed in snooze mode as compared to 4 bits per pixel resolution in normal mode, see col. 3, lines 41-45, and col. 4, 7-20).

Nookala does not explicitly teach the display controller *comprising* the internal display memory. However, since the on-chip memory 209 contains only data to be displayed on the LCD 203 and its size is small (2 Kbytes, col. 4, lines 7-20), it would have been obvious to one skilled in the art to incorporate the memory 209 into the display controller 211 in order for the display controller to easily retrieve data to be displayed in the snooze mode, the advantage of which is that the display controller can directly retrieve display data from its own internal memory without the need of the memory controller 210.

Nookala further fails to explicitly teach wherein both the first display mode and the second display mode may be changed to by the display logic while the device is being actively used by a user. However, this is what Phillipps teaches. Phillipps teaches a mobile computing device, such as PDA, having at least two display modes, in the first display mode, only a portion of the display is shown, and in the other mode, the whole display is shown (see Abstract, and col. 2, lines 15-21). Phillipps further teaches both the first display mode and the second display mode may be changed to by the display logic while the device is being actively used by a user (col. 3, lines 30-55).

Therefore, it would have been obvious to one skilled in the art to utilize the method as taught by Phillipps in combination with the method as taught by Nookala in order to enable the user to switch between the two display modes to reduce power consumption.

As per claim 32, as cited above, Nookala teaches the first amount of information is sufficient for displaying rich color and high resolution on the display and the second, smaller amount of information is for displaying low color and low resolution on the display (col. 3, lines 39-45, see also col. 6, lines 28-40).

As per claim 33, Nookala fails to explicitly teach *in the second mode only textual types of graphical information are displayed*. However, Phillipps teaches in one of the display mode, a calculator function is displayed (col. 3, lines 30-45). Thus, it would have been obvious to one skilled in the art to utilize the method as taught by Phillipps in combination with the method as taught by Nookala so that less information is displayed on the display device, and thereby conserving power of the mobile device.

As per claim 34, although not taught by Nookala, Phillipps teaches the processor is configured in the first mode to operate a first application stored in memory (such as wordprocessors, spreadsheets, etc.) and in the second mode to operate a second application stored in memory (such as calculation function, see col. 3, lines 30-55).

Therefore, it would have been obvious to one skilled in the art to utilize the method as taught by Phillipps in combination with the method as taught by Nookala in order to enable the user to switch between the two display modes to reduce unnecessary power consumption based on the applications.

As per claim 35, as cited above, Nookala teaches the display logic (*state machine 207*) is configured to change the display mode based on requirements (*e.g. for power management, col. 2, lines 27-29*) dictated by an operating system running on the processor.

As per claim 36, Nookala teaches in the second mode (snooze mode) the first memory device is powered down (*i.e. in snooze operating mode, the external memory 202 is inactive, and the system is operating in a low power operating mode (col. 5, lines 3-7), and clocks to all modules except LCD controller 211 and memory controller 210 are shut off, col. 5, lines 27-32).*

As per claim 37, Nookala teaches the internal display memory comprises random access memory (col. 4, lines 10-12).

As per claim 39, Nookala fails to teach the mobile device further comprising *a cellular telephone*. However, Phillipps teaches the mobile device can be combined with a cellular phone (col. 1, lines 59-63).

Therefore, it would have obvious to one skilled in the art to utilize the method as taught by Phillipps in combination with the method as taught by Nookala in order to increase the functionality for the mobile device as mobile phone.

Claim 48, which is similar in scope to claim 33, is thus rejected under the same rationale.

As per claim 56, as cited above in claim 32, Nookala teaches the second display mode is configured to display images at a lower resolution than the first display mode (col. 3, lines 39-45).

As per claim 58, although not taught by Nookala, Phillipps teaches the display logic configured to change the display mode is configured to select the first mode or the second display mode based on a characteristic of an application running on the processor (*i.e. based on either a calculator function or other application such as wordprocessors, spreadsheets, etc., see col. 3, lines 30-55).* Therefore, it would have been obvious to one skilled in the art to utilize the

method as taught by Phillipps in combination with the method as taught by Nookala in order to enable the user to switch between the two display modes to reduce unnecessary power consumption based on the applications.

As per claim 59, as cited above referring to claim 36, Nookala teaches in the second mode the memory is powered down.

As per claim 60, referring to claim 58, although not taught Nookala, Phillipps teaches the application is a first application (such as calculator application), and the display logic is further configured to change a display mode from one of the first and second display modes to another of the first and second display modes based on a second application running on the processor (such as wordprocessors, spreadsheets, etc. see col. 3, lines 56-62, and col. 4, lines 36-45).

Therefore, it would have been obvious to one skilled in the art to utilize the method as taught by Phillipps in combination with the method as taught by Nookala in order to enable the user to switch between the display modes to reduce unnecessary power consumption based on the applications.

As per claim 61, as cited in claim 60 above, although not taught by Nookala, Phillipps teaches the display logic is configured to select the first display mode or the second display mode based on the characteristics of the application when the application is launched on the processor (col. 3, lines 46-62, and col. 4, lines 36-45, e.g. full GUI-based application requires full display mode). Therefore, it would have been obvious to one skilled in the art to utilize the method as taught by Phillipps in combination with the method as taught by Nookala in order to enable the user to switch between the display modes to reduce unnecessary power consumption based on the applications.

As per claim 62, as discussed in claim 61, the combined Nookala-Phillipps teaches the characteristic comprises a display requirement of the application (Phillipps, col. 3, lines 46-62, full GUI-based application requires full display mode, also Phillipps, Fig. 6, col. 4, lines 23-26).

6. Claims 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nookala et al. (U.S. Patent No. 5,860,016) in view of Phillipps (U.S. Patent No. 6,137,481), further in view of O'Leary (U.S. Patent No. 6,750,850).

As per claim 38, as shown in Fig. 2, Nookala teaches the mobile device further comprises a communication device 205. The combined Nookala-Phillipps reference does not explicitly teach *the mobile computing device comprises a wireless data communications device, wherein the processor is configured to synchronize data with a computer*. However, O'Leary teaches a mobile device 30 as shown in Fig. 1, comprises a memory (54), a processor (50), display screen (34), a wireless receiver (52) couple to the processor (see Fig. 2). O'Leary further teaches the processor is configured to synchronize data between the mobile device 30 (Fig. 1) and a personal computer 55 via the wireless receiver 52 (Fig. 3, see col. 4, lines 13-30, and col. 5, lines 58-64).

Therefore, it would have been obvious to one skilled in the art to utilize the method of synchronizing with a personal computer via a wireless communication device as taught by O'Leary incorporating into the communication device of the mobile device as taught by Nookala-Phillipps in order to upload data to or download data from the computer wirelessly (col. 4, lines 13-30).

7. Claims 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nookala et al. (U.S. Patent No. 5,860,016) in view of Phillipps (U.S. Patent No. 6,137,481), further in view of Tse et al. (U.S. Patent No. 5,473,342, "Tse", hereinafter).

As per claim 54, the combined Nookala-Phillipps fails to explicitly teach the second amount of information comprises an image having at least 8-bit color. However, Tse teaches a method for displaying multiple modes of color depth comprising a first display mode and a second display mode (see col. 4, lines 35-64), wherein in the second mode, the second amount of information is 8 bit color (see col. 6, lines 44-67).

Therefore, it would have been obvious to one skilled in the art to utilize the method as taught by Tse in combination with the method as taught by the combined Nookala-Phillipps above in order to adjust the output pixel rate to match that of the display mode being display on a pixel-by-pixel basis (col. 4, lines 35-41).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau H. Nguyen whose telephone number is: 571-272-7787. The examiner can normally be reached on MON-FRI from 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794.

The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Hau H Nguyen/

Primary Examiner, Art Unit 2628